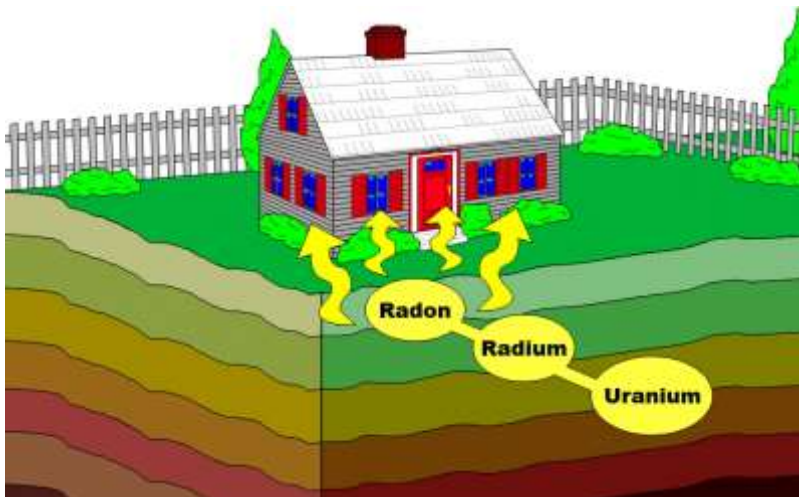




Private Well Owner Tip Sheet

September, 2014

Have a question?
Visit the Private Well Owner Hotline at 855-420-9355 (855-H2O-Well)



WellOwner.org "go-to" place for well owner information

Whether you're a household water well owner or a local official who works with them, the National Ground Water Association (NGWA) urges you to help well owners everywhere by sharing the link to www.WellOwner.org.

"We encourage you to tell others about this great web site--one of the most information-rich, practical web sites for private well owners in existence," said NGWA Public Awareness Director Cliff Treyens. "Please share it with others on your Facebook page. Tweet it to those who are following you. And if you are with an organization that has a web site, please link to WellOwner.org."

WellOwner.org contains information about water well basics, maintenance, water quality, groundwater protection, finding a

Radon in well water: What is it, and what do you do?

What is radon?

Radon is a colorless, odorless gas produced by the radioactive decay of the element radium, which has itself been formed by the decay of uranium. All rocks contain some uranium, although most contain a very tiny amount. Just as uranium is present in all rocks and soils, so are radium and radon, due to radioactive decay.

How is health risk measured?

Currently there is no federally enforced drinking water standard for radon. The EPA is proposing that radon levels in drinking water from public systems be below 300 pCi/L, or alternatively below 4000 pCi/L if a multimedia mitigation plan for indoor air is developed by the state. The U.S. EPA does not regulate residential wells, but private well owners may use the U.S. EPA's proposed radon levels as their personal action levels.

What are the health effects of radon?

The U.S. EPA estimates that in homes served by wells, groundwater contributes about 5 percent of the radon found in the household air. Exposure can take place when taking a shower, doing laundry, or washing dishes--when water is agitated to release the radon gas. Compared to radon entering the home through water, radon entering through the soil and house foundations represents a much larger risk. Although the U.S. EPA still considers the risk from ingestion to be small compared to the risk from breathing indoor air containing radon, it now says drinking water contaminated with radon may add some minor risk of developing stomach or other internal organ cancer.

How does radon enter a private well system?

Radon is found in groundwater in areas that have high levels of uranium in the underlying rocks, such as granites and shales.

Is my private well at risk?

Persons who live in areas that have high levels of uranium in the underlying rocks, such as granites and shales, may be at greater risk. Given that radon is a naturally produced substance in groundwater and not the result of human activities, there is no water well construction method that will prevent it from being in groundwater.

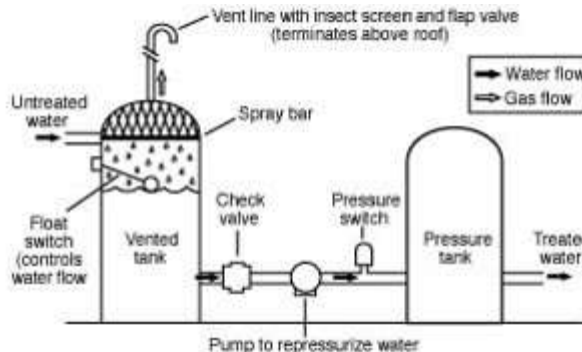
A water well system professional can determine whether your well can be retrofitted to draw from zones in which the water contains radon at levels consistently below the proposed U.S. EPA standard.

What type of treatment solutions are available?

It is possible to have water tested for radon; however special collection vials are required. Drinking water testing should be done by a certified drinking water testing laboratory.

Because the primary source of radon exposure is from breathing contaminated air in the home, removal should be where water enters a house or building. Point-of-use devices, such as those installed on a tap or under the sink, treat only a small portion of the water in the home and are not as effective in reducing radon; radioactivity also can build up on the filters of these devices and become a hazard. The two most common treatment technologies are granular activated carbon and aeration:

Granular activated carbon: This technology will remove 95 percent of the waterborne radon. It works by adsorbing the radon onto the surface of activated carbon. There the radon continues to decay and give off radiation; however, the treatment equipment is usually not located in the living area of the home. Although the granular activated carbon system has few moving parts and should have a long, useful life, radon build up over long periods of time becomes a low-level radioactive source requiring special disposal.



This technology has a lower front-end cost, but there are costs associated with disposal of radioactivity build up after many years.

Aeration: Radon

water well professional and more. It also provides a host of free online lessons and recorded webinars on important, practical well owner issues. Share www.WellOwner.org or post it to your web site today!



**Calculate
your
water
use;
find
ways
to
save**

water

Part of protecting groundwater--in addition to preventing contamination--is conserving it. This is even more important during drought, which currently affects more than 70 million Americans.

To start conserving, assess how much water you currently use to see where savings can be realized. Click on the calculator image to use the National Ground Water Association's Water Use Calculator. You can insert values specific to your household for different areas of water use and adjust for standard appliances and water-saving appliances.

Use the results to consider where you can cut back by modifying your water use habits--particularly in the areas of most intensive water use. Also consider installing a water-saving appliance or fixture.

If you are a private water well owner, conserving water will preserve your water supply during times of low rainfall or drought. It also will reduce wear and tear on your system over time.der where you can cut back by modifying your water use habits--particularly in the areas of most intensive water use. Also consider

can be easily removed from water supplies by blowing air up through the water and venting the resulting vapor out through the roof. This is most commonly accomplished with an air diffuser mounted at the bottom of a storage tank filled with water to be treated. As the air bubbles rise through the water, they strip radon and carry it out of the top of the tank and through a vent pipe to above the roof line. A greater level of success—as much as 99 percent removal—can be achieved when selecting a unit that utilizes a mister or nozzle located at the top of the tank to fill the tank along with a bubbler. This technology has a higher front-end cost than granular activated carbon but has no associated disposal costs. To learn more about water testing and treatment, visit www.WellOwner.org.

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www.wellowner.org

Informing consumers about groundwater and water wells.

National Ground Water Association

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